

Remarks

Claims 1-11, 14 and 17-19 were pending in the subject application. By this Amendment, no claim has been amended or canceled. Accordingly, claims 1-11, 14 and 17-19 are now before the Examiner for consideration. Favorable consideration of the pending claims, in view of the following remarks, is respectfully requested.

Claims 1-4, 6-10, 14, and 18 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Caselli *et al.* (EP 1146111) in view of Stevens (U.S. Patent No. 5,712,237) and Scheuing *et al.* (U.S. Patent Application Publication No. 2003/0220223). The applicants respectfully traverse this ground for rejection because there is no reason to combine the reference teachings, and the references, even when combined, do not teach or suggest all claim limitations.

The primary Caselli *et al.* reference is directed to a process of disinfecting a hard surface. As noted in the Office Action, the reference does not teach or suggest the following claim limitations: 1) the ratio of volatile to non-volatile solvent in the range of 3:1 to 1:3; and 2) the composition is absorbed on a carrier, which is a non-woven material comprising cellulosic fibres and plastic, or is amorphous silicon dioxide.

The Stevens reference is directed to a composition for degreasing textiles and related fabrics and garments (see for example, Stevens at column 2, lines 26-30, Abstract and claim 1). No mention is made of any use of the composition for disinfection purposes, i.e., for the prevention of proliferation of microorganisms, particularly Gram-positive bacteria.

The Scheuing *et al.* reference is directed to a method for forming hydroscopic polymer gels to improve cleaning performance as well as cleaning compositions containing such hydroscopic polymer gels for application to a surface (see for example, Scheuing *et al.* at paragraph 0017, Abstract, claim 1).

While the Scheuing *et al.* reference contains a brief mentioning of the word “disinfecting” at paragraph 0042, such disclosure is directed to the choice of liquid carrier for the cleaning compositions (paragraphs 0040-0042). In Scheuing *et al.*, the liquid carrier can contain organic solvents, which may function as anti-microbial, disinfecting agents. In contrast, the currently-claimed composition itself, not the carrier, acts as the anti-microbial, disinfecting agent; the carrier,

onto which the claimed composition is absorbed, is a separate entity independent from the anti-microbial composition.

In addition, while the Scheuing *et al.* reference provides a long list of anti-microbial agents that can be included into the cleaning composition (paragraph 0057), none of them are related to the currently-claimed composition, which uses essential oils or essential oil components as active anti-microbial agents.

Thus, the Scheuing *et al.* cleaning composition is distinct from, and does not provide any detailed guidance relevant to, the currently-claimed anti-microbial disinfecting composition.

The mere fact that the purported prior art could have been modified or applied in some manner to yield an applicant's invention does not make the modification or application obvious unless "there was an apparent reason to combine the known elements in the fashion claimed" by the applicant. *KSR International Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741 (2007). An applicant's invention is not "proved obvious merely by demonstrating that each of its elements was, independently, known in the (purported) prior art." *Id.*

Here, there is no reason, other than hindsight gleaned from the current invention, to combine the reference teachings to arrive at the current invention. Specifically, a skilled artisan would not look to Stevens or Scheuing *et al.* to supplement the teachings of Caselli *et al.* Neither the Stevens reference nor the Scheuing *et al.* reference is drawn to the same field of technology as Caselli *et al.* or the currently-claimed invention, which is in the art of disinfection. As discussed above, the Stevens reference is directed to degreasing textiles and related fabrics and garments, and no mention is made of any use for disinfection purposes. The Scheuing *et al.* reference is directed to a method for forming hydroscopic polymer gels to improve cleaning performance, and does not provide any detailed guidance relevant to the currently-claimed anti-bacterial, disinfecting composition. Without a reason to combine the cited references, a *prima facie* case of obviousness cannot be established.

With regard to the ratio of volatile to non-volatile solvent, the Office Action cites column 6, lines 30-35 and column 10, lines 50-52 of the Stevens reference, which discloses a cleaning or degreasing composition containing alcohol in the range of 5% to 50% and water in the range of 3% to 75% (alcohol to water ratio in the range of 50:3 to 1:15).

M.P.E.P. 2144.05 states that if the reference's disclosed range is so broad as to encompass a very large number of possible distinct compositions, this might present a situation analogous to the obviousness of a species when the prior art broadly discloses a genus. *In re Peterson*, 315 F.3d 1325, 1330, (Fed. Cir. 2003); M.P.E.P. 2144.05.

The fact that a claimed species or subgenus is encompassed by a prior art genus is not sufficient by itself to establish a *prima facie* case of obviousness. *In re Baird*, 16 F.3d 380, 382, (Fed. Cir. 1994) ("The fact that a claimed compound may be encompassed by a disclosed generic formula does not by itself render that compound obvious."); *In re Jones*, 958 F.2d 347, 350, 21 USPQ2d 1941, 1943 (Fed. Cir. 1992) (Federal Circuit has "decline[d] to extract from *Merck & Co. v. Biocraft Laboratories Inc.*, 874 F.2d 804 (Fed. Cir. 1989)] the rule that... regardless of how broad, a disclosure of a chemical genus renders obvious any species that happens to fall within it."). See also *In re Deuel*, 51 F.3d 1552, 1559, 34 USPQ2d 1210, 1215 (Fed. Cir. 1995); M.P.E.P. 2144.08.

Here, the range of alcohol to water ratio of 50:3 to 1:15 is extremely broad. Such a broad disclosure is insufficient to render obvious the claimed range of 3:1 to 1:3. "When the prior art is extremely broad, a *prima facie* case of obviousness may not arise." *In re Baird*, 16 F.3d 380, 382, (Fed. Cir. 1994).

In addition, there is no reason for a skilled artisan to only select the currently-claimed range of 3:1 to 1:3 from the broad disclosure of 50:3 to 1:15. While the Office Action correctly notes that the reference discloses that alcohol enhances the likelihood of forming azeotropes with other cosolvents and enhances solubility with hydrophilic stains and contaminants, such disclosure has nothing to do with the currently-claimed composition, which is drawn to its anti-bacterial, disinfecting activity.

Thus, the references, even when combined, do not teach or suggest the claim limitation, which requires the ratios of volatile to non-volatile solvent being 3:1 to 1:3. An obviousness rejection fails if the prior art relied on does not disclose all of the limitations of the claimed invention. See, e.g., *In re Zurko*, 258 F.3d 1379, 1385-86 (Fed. Cir. 2001).

Furthermore, a *prima facie* case of obviousness may be rebutted by evidence that the claimed invention yields unexpectedly improved results over the prior art. See *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998), *In re Sebek*, 465 F.2d 904, 907 (C.C.P.A. 1972). The fact that the elements

work together in an unexpected and fruitful manner supports the conclusion that the applicant's invention was not obvious to those skilled in the art. *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741 (2007), *U.S. v. Adams*, 383 U.S. 39 (1966).

Here, the claimed ratio of volatile to non-volatile solvent in the range of 3:1 to 1:3 provides unexpectedly significant improvements on anti-bacterial effects over the prior art ranges. As is illustrated in the third and fourth rows of Table 3 (specification at page 10, Example 3), a 3:1 ratio of volatile to non-volatile solvent provides prolonged anti-bacterial activity for eight weeks, while a composition with even a slight increase in the amount of volatile solvent to 5:1 can only achieve anti-bacterial activity up to four weeks and exhibits suboptimal anti-bacterial effects at six and eight weeks. This unexpectedly improved anti-bacterial effect, which can only be achieved at the claimed range, further evidences that the applicants' invention is not obvious to those skilled in the art.

With regard the use of non-woven material, the Office Action cites paragraphs 0072-0074 of the Scheuing *et al.* reference. Paragraphs 0072-0074 merely teach that cleaning wipes can be made from non-woven as well as woven material. It does not teach or suggest using a non-woven material as a carrier, onto which a composition for disinfecting a space can be absorbed.

Therefore, the applicants respectfully submit that a *prima facie* case of obviousness has not been established. As discussed above, the references, even when combined, do not teach or suggest the claim limitation, which requires the ratio of volatile to non-volatile solvent being in the range of 3:1 to 1:3. In addition, there is no reason to combine the reference teachings. Furthermore, the claimed ratio of volatile to non-volatile solvent provides unexpectedly improved anti-bacterial effect, which further evidences that the currently-claimed composition is not obvious. Accordingly, the applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §103(a).

Claim 5 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Caselli *et al.* (EP 1146111) in view of Stevens (U.S. Patent No. 5,712,237) and Scheuing *et al.* (U.S. Patent Application Publication No. 2003/0220223) and further in view of Julemont *et al.* (U.S. Patent No. 6,380,152).

The shortcomings of the Caselli *et al.*, Stevens and Scheuing *et al.* references in combination have been discussed above. The Julemont *et al.* reference does not cure, or even address, the

aforementioned shortcomings. Accordingly, the applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §103(a).

Claim 11 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Caselli *et al.* (EP 1146111) in view of Stevens (U.S. Patent No. 5,712,237) and Scheuing *et al.* (U.S. Patent Application Publication No. 2003/0220223), and further in view of McCue *et al.* (U.S. Patent No. 5,403,587).

The shortcomings of the Caselli *et al.*, Stevens and Scheuing *et al.* references in combination have been discussed above. The McCue *et al.* reference does not cure, or even address, the aforementioned shortcomings. Accordingly, the applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §103(a).

Claim 17 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Caselli *et al.* (EP 1146111) in view of Stevens (U.S. Patent No. 5,712,237) and Scheuing *et al.* (U.S. Patent Application Publication No. 2003/0220223), and further in view of Caunt *et al.* (EP 0965541).

The shortcomings of the Caselli *et al.*, Stevens and Scheuing *et al.* references in combination have been discussed above. The Caunt *et al.* reference does not cure, or even address, the aforementioned shortcomings. Accordingly, the applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §103(a).

Claim 19 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Caselli *et al.* (EP 1146111) in view of Stevens (U.S. Patent No. 5,712,237) and Scheuing *et al.* (U.S. Patent Application Publication No. 2003/0220223), and further in view of Hartman *et al.* (U.S. Patent Application Publication No. 2005/0106121).

The shortcomings of the Caselli *et al.*, Stevens and Scheuing *et al.* references in combination have been discussed above. The Hartman *et al.* reference does not cure, or even address, the aforementioned shortcomings. Accordingly, the applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §103(a).

In view of the foregoing remarks above, the applicants believe that the currently pending claims are in condition for allowance, and such action is respectfully requested.

The Commissioner is hereby authorized to charge any fees under 37 CFR §§1.16 or 1.17 as required by this paper to Deposit Account No. 19-0065.

The applicants also invite the Examiner to call the undersigned if clarification is needed on any of this response, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,



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